Schena, Cristeen

From: Patrick Goddard <pgoddard@lexingtonma.gov>
Sent: Monday, June 10, 2013 8:09 AM
To: Tisa, Kimberly
Subject: FW: Air Sampling at Estabrook School?

Good Morning Kim,

I have replied below to Mr Benjamin Esty on his questions on our latest results at Estabrook School. I am sharing this information with you, too, as in the past Mr. Esty also follow up with you on these questions.

Pat

Patrick W. Goddard
Director of Public Facilities

Town of Lexington
201 Bedford Street, Lexington, MA 02420
(781) 274-8958, pgoddard@lexingtonma.gov

From: Patrick Goddard
Sent: Monday, June 10, 2013 8:06 AM
To: 'Esty, Benjamin'
Cc: dmacintosh@eheinc.com; Margaret Coppe; Betsy@philidor.com; greisig@verizon.net; Paul Ash; 'Matt Fragala'
Subject: RE: Air Sampling at Estabrook School?

Good Morning Mr. Esty:

Thank you for your questions on the latest air sampling results from Estabrook School. I will try to answer your questions from your two emails.

The results have been posted to the LPS website. All results from Estabrook are posted and there was no intentional delay to post these results.

Based on the April results, our consultant recommended re-sampling five rooms in June, after additional sealant was installed. The additional sealant has been installed and the school will be sampled again in June, including these five rooms, as per our Operation and Maintenance Plan (O&M Plan).

As for you comments on room four (4), we are following the protocol in the approved O&M Plan. The O&M Plan indicates we will control concentrations as low as reasonably achievable, but in all cases below 230 ng/m3. Our results to date are within this guideline level on average. The 75% (173 ng/m3) threshold requires follow up actions.

Once the data on the air sampling was received, we reviewed the results of the actions in our O&M Plan to confirm that our air handling systems has been performing as specification during this period. This review showed that all systems had performed as required. Our consultant then recommended that the additional sealant be installed before the next sampling.

After we see the results from this round of sampling, we will work with our consultant to recommend the appropriate next steps.

I hope this answers your questions.

Sincerely,

Pat
Patrick W. Goddard
Director of Public Facilities

Town of Lexington
201 Bedford Street, Lexington, MA 02420
(781) 274-8958, pgoddard@lexingtonma.gov

From: Esty, Benjamin [mailto:besty@hbs.edu]
Sent: Saturday, June 08, 2013 5:07 PM
To: Patrick Goddard
Cc: dmacintosh@eheinc.com; Margaret Coppe; Betsy@philidor.com; greisig@verizon.net
Subject: Re: Air Sampling at Estabrook School?

Dear Mr. Goddard;

One more item regarding the kindergarten wing.

Room 4 has been over the 173mg limit two out of the last three tests--and will likely be over in warmer months unless significant remediation steps are taken. Because this room has the smallest children--kindergarteners I believe--I think extra actions need to be taken immediately. Similarly, Room 2 is close to the limit and the measured concentrations are likely to rise as the temperature rises--EH&H shows a strong correlation with ambient temperture which means the next could well be above the 173mg limit. For this reason, I think all of the rooms in this wing should get additional sealant and/or other remediation steps. What do you think?

Finally, do you think the parents of children in room 4 understand this situation? Certainly reporting schoolwide averages when there are statistically significant differences between classrooms--something I have criticized before (see below)--does not accurately convey this critical information. Having a child in room 2 as I do, I am concerned. If my child were in room 4, you would be seeing me in person on Monday morning.

Regards,
Ben Esty

Sent from my iPad

On Jun 6, 2013, at 3:51 PM, "Patrick Goddard" <pgoddard@lexingtonma.gov> wrote:

> Mr. Esty,
> Attached is the report. I will follow up on insuring that it is posted.
> Pat
>
> **Patrick W. Goddard**
> Director of Public Facilities
>
> Town of Lexington
> **201 Bedford Street, Lexington, MA 02420**
> **(781) 274-8958, pgoddard@lexingtonma.gov**

From: Esty, Benjamin [mailto:besty@hbs.edu]
Sent: Wednesday, June 05, 2013 7:16 PM
To: Patrick Goddard
Subject: Air Sampling at Estabrook School?
Importance: High

Dear Mr. Goddard,
I am writing to inquire about the air sampling tests being done at Estabrook School. When was the last test done (I believe it was in April 2013), and are the results publicly available? I don't see anything available on line.
I have seen the results from the tests on December 27, 2012, but assume there were additional tests done sometime this spring. Would you please let me know when the last tests were done, and send me the most recent report from EH&H.
Thanks,
Ben Esty

From: Patrick Goddard [mailto:pgoddard@lexingtonma.gov]
Sent: Tuesday, December 04, 2012 11:20 AM
To: Esty, Benjamin; dmacintosh@eheinc.com
Cc: Betsy Sarles (Betsy@philidor.com); Gretchen Reisig (greisig@verizon.net); Margaret Coppe; Matt Fragala; Paul Ash
Subject: RE: Concerns about EH&H Testing at Estabrook
Mr. Esty,
Thank you for your comments on the latest round of testing at Estabrook School. I am copying Matt Fragala on this reply so that he can comment on your concerns.
I believe that the testing results is consistent with what we have seen in the past, particularly when you take into consideration that the ambient temperature was 72 degrees on testing day. I am attaching our latest air sampling plan developed with input from the community last fall and I would ask Mr. Fragala to comment on whether this needs to be updated.
Regards,
Pat

Patrick W. Goddard
Director of Public Facilities
Town of Lexington
201 Bedford Street, Lexington, MA 02420
(781) 274-8958, pgoddard@lexingtonma.gov

From: Esty, Benjamin [mailto:besty@hbs.edu]
Sent: Tuesday, December 04, 2012 10:15 AM
To: dmacintosh@eheinc.com; Patrick Goddard
Cc: Betsy Sarles (Betsy@philidor.com); Gretchen Reisig (greisig@verizon.net); Margaret Coppe
Subject: Concerns about EH&H Testing at Estabrook
Importance: High

Dear Mr. MacIntosh and Mr. Goddard,
I am writing about the report dated **November 14, 2012**, from EH&E regarding the air samples taken at Estabrook School in Lexington October 20, 2012 (see attached). While I very much appreciate the regular testing and reporting of results, and your ongoing concerns for our children's safety, this report raises a number of important questions with potentially troubling implications. As a parent of two children in the school, including one in kindergarten, I am concerned about these results. In particular, I was wondering if you could address three concerns I have:
1) **Unexplained Variance in Duplicate Tests**: On page 2, the report notes the duplicate test in Room 20 yielded results of 80 and 231 ng/m3, the latter being above the school limit and well above the 173 ng/m3 threshold for follow-up assessment. The fact that the results are so different is striking and very troubling--the results differ by a factor of four times! While there may be an explanation for the difference, this result does not give people much confidence in

the other test results—could a result of 200 ng/m3 be off by a factor of four, or off in magnitude by 150 ng/m3? I was under the impression the tests had a much tighter sampling error. I looked back at prior reports for duplicate tests, but they only reported averages, not the individual results. **Can you please**:

A) provide an explanation for the difference.

B) provide individual results for the last three duplicate tests (e.g., room 31B on 6/27/12)

C) describe the accuracy of and confidence level for the testing procedure.

2) **Reporting of and Reliance on Average Results**: The summary of findings reports an average result across the tests done in all rooms. Treating the school as a whole implicitly assumes that all rooms are equal, yet the tests show widely varying levels of PCBs both over time and across rooms. We are now at the point where we probably have enough data to test EH&E's implicit assumption that all rooms have equal PCB levels (e.g., Figure 1 reports a school-wide PCB level). For example, the attached page shows that the average results for tests done in 2011-12 differ across rooms using a standard T-test of averages (assuming unequal variances)—the results are "significant" at the 1% level (clearly univariate and parametric test are admittedly crude). In other words, if the results are valid, the kids in Rooms 4 and 22 are subject to considerably higher levels of PCBs than kids in Room 13, and the levels are approaching the school limit of 230 ng/m3. Because Room 4 houses, I believe, smaller children, I think the testing process, precautions, and remediation efforts need to be more stringent, and we should put less emphasis on school-wide average results. **Instead, more attention should be paid to specific classrooms, particularly those with high historic measured concentration and those housing smaller children**.

3) **Follow-up Tests**: According to the memo, rooms that have measured concentrations above the threshold of 173 ng/m3 are subject to evaluation and adjustment, which is very sensible and reassuring. We don't know, however, if these adjustments solved the problem causing the higher PCB concentrations. To show these adjustments have been effective in reducing concentrations, **I think all rooms that exceed the threshold in one test should be re-tested in the following period in addition to the rooms scheduled for testing in the O&M plan**. For example, Room 6 had measured concentration of 266 ng/m3 in the June 27, 2012 test, but there was no re-test in October (Room 22 should also have been re-tested). In contrast, Room 24 was above the threshold in June, and was retested in October with a result below the threshold.

Thank you for your attention to this matter. I look forward to hearing your responses.

Regards,

Ben Esty
Ben Esty, PhD
4 Ballard Terrace
Lexington, MA 02420
Ph: (781) 274-6350
E-mail: besty@hbs.edu

<Air Sample Memorandum (EH&E 18536).pdf>